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STUDIES IN STELIS. VI.

BY
OAKES AMES

Stelis Lankesteri Ames in Sched. Orch. 3 (1923) 4.

AMONG MIDDLE AMERICAN species of *Stelis*, *Stelis Lankesteri* has the largest flowers, being approached only by *S. leucopogon* Reichb. f. It is characterized by the unequally bilabiate calyx which gives the flowers the aspect of being disepalous. The lateral sepals are coherent to the apex forming a strongly concave lamina; the petals are very fleshy, about 2 mm. long and 2 mm. wide, strongly imbricating behind the fleshy column and conspicuously thickened above the middle. The column is characterized by having the cushion-like stigmatic processes widely separated equalling the anther, with the triangular-lingulate rostellum erect between them. The labellum is about half as long as the petals and in its structure suggests the species of the group to which *S. nubis* Ames belongs.

The flowers of *S. Lankesteri* are described by the collector as being vinaceous brown. When dry they are brown-purple.

Only three collections are known to me; that of the type found in the hot forest near La Florida, at an altitude of 150 meters, and two collections from Estrella de Cartago, found at an altitude of 5,000 feet. Because of the great difference in altitude between the type-locality

EXPLANATION OF ILLUSTRATION

STELIS LANKESTERI *Ames*. Plant natural size drawn from *Lankester 365*. 1, flower much enlarged showing the bilabiate aspect of the sepals and the relatively small petals, labellum and column. 2, a flower much enlarged as seen from the side. 3, a petal much enlarged. 4, petals, labellum and column as seen from above. 5, labellum and column, much enlarged. 6, labellum and column, much enlarged, the anther removed to reveal the rostellar process erect between the cushion-like stigmatic arms of the column. In this drawing the labellum is strongly deflexed. 7, the labellum much enlarged as seen in front view. Flowers and floral parts drawn from material preserved in alcohol.

Drawn in 1935 by BLANCHE AMES



STELIS *Lankesteri* Ames

and Estrella de Cartago, Mr. Lankester was of the opinion that two species might be represented and he emphasized a difference between the flowers: those from the type-locality being without the hyaline area on the sepals that is noticeable in the flowers of the plants from the higher altitude. Structurally the flowers of all the specimens examined are similar. There does not seem to be any specific difference dependent on altitude.

COSTA RICA: La Florida. At 150 meters altitude in hot forest. Flowers vinaceous brown. (Blooming at Cartago under cultivation, October-November 1922). *Lankester 365*: La Estrella de Cartago. At 5,000 feet altitude. Flowers with the upper sepal vinous purple-hyaline. October 4, 1925. *Lankester 1062*; upper sepal semi-translucent maroon, lower sepal with hyaline centre. *Lankester 1017*.

A RARE VANILLA

BY

OAKES AMES

Vanilla Pfaviana *Reichenbach filius* in Gard. Chron. ser. 2, 20 (1883) 230.—l'Orchidophile 3 (1883) 758 (as *V. Pfavana*)—Hemsley in Godman & Salvin Biol. Cent.-Am. Bot. 4 (1887) 90 (as *V. pfaviana*)—R. A. Rolfe in Journ. Linn. Soc. 32 (1896) 452—Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2 (1918) 426.

REICHENBACH'S DESCRIPTION of *Vanilla Pfaviana* is typical of the brief botanical characterizations appearing in the later years of the nineteenth century and is, in the absence of the type, quite inconclusive and almost useless for purposes of identification. From 1889 (the year of Reichenbach's death) until 1914, *V. Pfaviana* remained an obscure species; its identity could not be established because the type was inaccessible being a part of the Reichenbachian Herbarium in Vienna and unapproachable by the terms of Reichenbach's will during the twenty-five years following his decease.

In the original description, Reichenbach cited Mexico as the native country of *V. Pfaviana*, saying that it was found by one of Mr. Pfau's collectors, yet, what I take to be the type indicates Endres as the collector and Costa Rica as the source, the type plant being attributed to Pfau under no. 269, as if Pfau had distributed it in a series of numbered specimens.

Among the collections of orchids secured by numerous expeditions to Mexico since 1883, specimens referable to *V. Pfaviana* failed to appear prior to 1933 when plants were collected in the vicinity of Atoyac near Vera Cruz; and, notwithstanding the intensive collections made in Costa Rica in recent years, nothing answering to the original description was discovered un-

til 1936 when Alexander F. Skutch found specimens in the Province of San José. In 1935, Percy H. Gentle found specimens in British Honduras.

R. A. Rolfe, in his monograph of *Vanilla*, referred to *V. Pfaviana* as being known to him only from the original description. He depended on the suggestion made by Reichenbach that the flowers are terminal in the type and used this character in his key to separate the species from *V. inodora* Schiede, *V. ovata* Rolfe and *V. Methonica* Reichb.f. The specimens collected in Costa Rica by Skutch indicate that the flowers are both terminal and lateral; completely opened flowers and buds being present simultaneously on the elongated, leafy stems.

MEXICO: State of Guerrero, near San Vicente, northeast of Atzac. At 850 meters altitude in mixed oak and pine forest on trees. January 10, 1933. *Östlund 1984* (collector O. Nagel).

BRITISH HONDURAS: Gracie Rock, Sibun River, May 1, 1935. *Percy H. Gentle 1672*.

COSTA RICA: Province of San José, vicinity of El General. At 1130 meters altitude. Herbaceous vine in forest, attached by the roots, flowering shoots pendant. Flowers green with white labellum. February, 1936. *Alexander F. Skutch 2592*.

EXPLANATION OF ILLUSTRATION

VANILLA PFAVIANA *Reichb.f.* Plant natural size drawn from *Skutch 2592*. 1, labellum, slightly enlarged, showing at the base the remains of the adnate column. 2, column, slightly enlarged, the basal portion missing. Flowers drawn from specimens of *Skutch 2592* preserved in formalin.

Drawn May 1936 by BLANCHE AMES

VANILLA *Pfariana* Reichb. f.



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A NEW PLEUROTHALLIS FROM HONDURAS

BY
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Pleurothallis comayaguensis *Ames, sp. nov.*

Rhizoma repens. Caules secundarii valde abbreviati, monophylli. Folium ellipticum vel orbiculare, integerrium, marginatum. Pedunculus elongatus, glaber, folio multo longior, prope apicem pauciflorus. Sepala lateralialia in laminam orbicularem apice bidentatam cohaerentia. Sepalum dorsale valde concaviusculum, oblongum, obtusum, trinervium. Petala lanceolata, obtusa, margine glandulosa, uninervia. Labellum linguiforme, basi auriculatum, margine supra medium longe pilosum. Columna apice irregulariter fimbriata.

Rhizome branching, creeping, monophyllous at the nodes, each leaf subtended by an abbreviated root. Secondary stems up to 1 mm. long, rigid. Leaves about 3 mm. apart, up to 6 mm. long, 3-3.5 mm. wide, elliptic or lenticular, entire, conspicuously marginate, fleshy. Peduncles about 6 mm. long, borne singly in the axils of the leaves, with a tubular bract at the base, otherwise naked below the lowermost flower, glabrous. Flowers about four, opening in succession, 2 mm. long. Lateral sepals 2 mm. long, coherent almost to the tip, forming an orbicular lamina 1.5 mm. wide, strongly concave at the base, smooth. Dorsal sepal 2 mm. long, strongly concave, about 0.5 mm. wide, oblong, obtuse, 3-nerved. Petals about 2 mm. long, hardly 1 mm. wide, lanceolate, obtuse, with several elongated glandular hairs on the margins, 1-nerved. Labellum 1.5 mm. long, 0.5 mm. wide, narrowly lingulate, obtuse at the apex, margins of the basal half strongly inrolled, sometimes almost contiguous over the lower half of the disc; margins of the apical

EXPLANATION OF ILLUSTRATION

PLEUROTHALLIS COMAYAGUENSIS *Ames.* 1, part of a plant drawn twice natural size. 2, 3 and 4, flower much enlarged. 5, labellum, much enlarged, as seen from above. 6, column much enlarged with the anther removed. 7, anther. 8, pollinia much enlarged. 9, petal much enlarged. The vegetative and floral parts drawn with the aid of the camera lucida from a specimen preserved in alcohol.

Drawn in 1935 by BLANCHE AMES

PLEUROTHALLIS

comayaguensis
Ames



half deflexed, rather closely beset with elongated glandular hairs, shortly glandulose at the tip and on the depressed or canaliculate central portion of the glandulose disc, auriculate on each side at the base, the auricles rounded and curved inward. Column about 2 mm. long, dilated upward from a slender base, cucullate at the apex with the margin of the clinandrium irregularly fringed; rostellum membranaceous. Stigmatic orifice on the frontal surface.

Vegetatively this species bears a strong resemblance to *Pleurothallis Lewisae* Ames, but differs from it markedly in the structure of the flower. (cf. Bot. Mus. Leaflet. vol. 1 no. 8 p. 7.) The structure of the labellum and column resembles *P. navarrensis* Ames and *P. abjecta* Ames.

REPUBLIC OF HONDURAS: Department of Comayagua, Minas de Oro. Epiphyte in dense damp forest, at 4,000 feet altitude. Flowers very small, red. December 29, 1932. *J. B. Edwards* 338. (Type in Herb. Ames. No. 42460.)

GUATEMALA: District of Peten, La Libertad. March 29, 1933. *C. L. Lundell* 2140; March 30, 1933. *Lundell* 2235.

A GENERIC SYNONYM

BY

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Dipodium squamatum *Robert Brown ex Lindley* Gen. & Sp. Orch. Pl. (1833) 186.

Orphrys? squamata Forster Fl. Ins. Austr. Prodr. (1786) 59, (no. 310).

Cymbidium squamatum Swartz in Kgl. Vetensk. Acad. Handl. 21 (1800) 238.

Epidendrum squamatum Poiret in Lamarek Encycl. Suppl. 1 (1810) 376.

Trichochilus neo-ebudicus Ames in Journ. Arn. Arb. 13 (1932) 142.

THE GENUS *DIPODIUM*, as treated by Pfitzer in his classification of the Orchidaceae in Engler and Prantl's *Die Natürlichen Pflanzenfamilien*, is assigned to the *Acrotonae-Pleuranthae*. This is a concept characterized by a laterally produced flower-shoot in contradistinction to the *Acrotonae-Acranthae*, a concept characterized by a terminally produced flower-shoot. *Dipodium squamatum* R. Brown and *D. punctatum* R. Brown, the Australasian species taken by Pfitzer to represent the genus *Dipodium*, are, as I interpret them, distinguished by a terminally produced flower-shoot and would seem properly to belong in his *Acrotonae-Acranthae*.

When I proposed the new genus *Trichochilus*, I was unmindful of *Dipodium*, a well-figured group with numerous specimens in my herbarium. Consequently, when the material in hand with a terminal inflorescence failed to work out as belonging to Pfitzer's *Acrotonae-Acranthae*, I thought I was justified in proposing a new genus.

Pfitzer briefly characterized the genus *Dipodium* under his *Acrotonae-Pleuranthae*, and made the significant

statement: "Pfl. zur Blütezeit und warscheinlich überhaupt blattlos, in ihrem Aufbau noch ungenügend bekannt." As he restricted the genus to the Australasian species, it would seem that he intended to exclude from *Dipodium* the Malayan species with lateral flower-shoots (plants clearly referable to the *Acrotonae-Pleuranthae*) and to recognize for their reception the genus *Wailesia*. Perhaps, as Pfitzer implied, the vegetative structure of *Dipodium*, as represented by *D. punctatum* and *D. squamatum*, is in need of further elucidation. However, as long ago as 1862, H. G. Reichenbach (in *Xenia Orchidacea* 2 (1862) 15, t. 107) attempted a classification of the then known species (taking *Dipodium* in its broadest sense to include *Wailesia*), and in his key to the genus established two groups: one characterized by a terminal inflorescence, including *D. punctatum* and *D. squamatum*; the other characterized by a lateral inflorescence, including *D. paludosum* and *D. pictum*. He published a very accurate illustration of *D. squamatum* and showed clearly what he interpreted as a terminal inflorescence.

Unfortunately the specimens of *D. squamatum* and *D. punctatum* found in herbaria are usually incomplete and appear to be broken where they emerge from the ground, yet it is difficult to understand why Pfitzer, relying on vegetative characters, should have regarded these species as members of his *Acrotonae-Pleuranthae*.

If *Dipodium* is accepted in the modern sense to include the species formerly referred to *Wailesia* (on floral structures it is evident that these genera are closely related and doubtfully separable) it should be emphasized that the Australasian species, *D. punctatum* and *D. squamatum*, constitute an exception to the generic characters of *Dipodium* based on a lateral flower-shoot and are in the same category with several other genera of the *Orchidaceae*, such as *Dendrochilum* and some of the ab-

errant species of *Epidendrum* which should be referred, in a key erected on vegetative characters, to both the *Acrotonae-Acranthae* and to the *Acrotonae-Pleuranthae*.

STUDIES IN PONTHIEVA

BY

OAKES AMES AND CHARLES SCHWEINFURTH

***Ponthieva chuquiribambae* (Kränzl.) Ames & Schweinfurth, comb. nov.**

Pleurothallis Chuquiribambae Kränzlin in Ann. Naturhist. Mus. Wien 44 (1930) 327.

On receipt of habit drawings and detailed floral analyses of the type of *Pleurothallis Chuquiribambae* from the Reichenbach Herbarium at Vienna, it became very evident that this species is a typical member of the genus *Ponthieva*. The characteristically asymmetrical petals adnate, together with the lip, to the upper part of the column are diagnostic for *Ponthieva* and are quite distinct from what obtains in the very distantly related genus *Pleurothallis*.

This species, however, does not appear to be referable to any *Ponthieva* previously described. It is allied to the widespread *P. maculata* Lindl., particularly to the rather dwarf form of the plant found in Central America: but it differs in having apparently narrower connate lateral sepals and a dissimilar markedly unguiculate ovate-triangular lip. Furthermore, *Ponthieva chuquiribambae* appears to differ from the Peruvian *P. villosa* Lindl. in

the narrow connate lateral sepals, the form of the lip and the short (not elongate) rostellum.

Ponthieva parviflora *Ames & Schweinfurth, sp. nov.*

Herba elata, gracilis. Radices tuberosae. Folia basalia, rosulata, elliptico-oblancheolata vel oblancheolata, ad basim petiolatam angustata, acuta. Scapus inferne glaber, superne glanduloso-pubescent. Racemus laxiflorus. Flores parvi. Sepala lateralibus oblique ovata, obtusa. Sepalum dorsale elliptico-lanceolatum, concavum. Petala sepalo dorsali valde adnata, obliquissime deltoideo-rhombica, basi cuneata. Labellum valde concavum, subsessile, apice profunde trilobatum. Columna brevis.

Plant tall, about 40 cm. high. Roots tuberous. Leaves basal, rosulate, five in this single specimen, elliptic-oblancheolate or oblancheolate, gradually narrowed into a petioled base, 13 cm. or less long, up to 2.9 cm. wide, acute, membranaceous. Stem slender, provided with eight scarious tubular acuminate sheaths of which the lowermost is 1.75 cm. long, glabrous below, finely glandular-pubescent above. Raceme loose, exceeding 10 cm. in length (incomplete), 23-flowered or more. Floral bracts lanceolate, acuminate, up to 4.5 mm. long, pubescent on the outer surface. Pedicellate ovary slender, spreading, 6 mm. or less long, glandular-pubescent. Flowers very small for the genus. Sepals sparsely glandular-pubescent near the base on the outer surface. Lateral sepals obliquely ovate, about 3 mm. long, up to 2 mm. wide, obtuse. Dorsal sepal elliptic-lanceolate, about 3 mm. long and 1 mm. wide, subacute, concave. Petals adnate to the dorsal sepal, obliquely deltoid-rhombic, obtuse or subacute, almost sessile on the column at the cuneate base, 2.9 mm. long, about 1.6 mm. wide below the middle, 1-nerved with an indistinct branch near the

base, strongly dilated on the outer margin near the base and slightly dilated on the inner margin at the middle, upper margins minutely cellular-ciliolate. Lip adnate to the column near the base of the latter, strongly concave with erect sides, nearly sessile at the solid base, about 2.7 mm. long in natural position, abruptly 3-lobed near the apex; middle lobe small, spatulate-oblong, 1 mm. long, rounded at the apex, concave, upcurved in natural position. Column very short, 2–2.5 mm. long including the terminal erect rostellar horn; clinandrium relatively long; anther oblong-cordate, stipitate.

Ponthieva parviflora is unusual in the genus in being a rather tall species with slender habit and very small flowers. It is somewhat similar to *P. parvula* Schltr., but is vegetatively much larger with dissimilar petals which are narrowed above, and with a more distinctly 3-lobed lip. It differs from *P. Brittonae* Ames in its taller habit, in its much smaller flowers, and in the venation of the petals, and in the dissimilar lip.

A sheet of the same collection bearing three plants (subsequently received from the Field Museum of Natural History) shows the following variations from the type. Plant 20–45 cm. tall. Stem with only three sheaths. Leaves elliptic, about 5–6 cm. long, 2.1 cm. or less broad. Raceme 9–15 cm. long.

YUCATAN: Tuxpeña, Campeche, January 19, 1932. *C. L. Lundell* 1213. (TYPE in Herb. Univ. Mich.).

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